

**PATENT APPLICATION**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Dimitri CHARRETTE, Georges CHOUNET

Application No.: New U.S. Patent Application

Filed: December 6, 2001

Docket No.: 111387

For: GAS-GENERATING PYROTECHNIC COMPOSITIONS WITH A  
HYDROCARBONACEOUS BINDER AND CONTINUOUS MANUFACTURING  
PROCESS

**PRELIMINARY AMENDMENT**

Director of the U.S. Patent and Trademark Office  
Washington, D. C. 20231

Sir:

Prior to initial examination, please amend the above-identified application as follows:

**IN THE CLAIMS:**

Please replace claim 10 as follows:

10. (Amended) Process for the solvent-free continuous manufacture in a twin-screw  
mixer-extruder (1) of pyrotechnic compositions according to Claim 1, characterized in that:

- the twin-screw mixer-extruder (1) comprises a mixing and kneading compartment (2), a compression compartment (3) and an extrusion head (4), and in that
  
- the solid (A) and liquid (B) constituents are introduced into the mixing and kneading compartment (2) via two different feed openings, a feed opening for the solids and a feed opening for the liquids, in that they are, in this compartment, conveyed and kneaded, then,

in that,

- the homogeneous paste thus formed is degassed in the compression compartment (3) and then extruded, using an extrusion head (4), in the form of rods (8) and, finally, in that,
  
- the rods thus formed (8) are cut up into charges (9) using a cutting device (10), and in that these said charges (9) are crosslinked at a temperature of between 100°C and 150°C.

REMARKS

Claims 1-14 are pending. By this Preliminary Amendment, claim 10 is amended to eliminate multiple dependencies. Prompt and favorable examination on the merits is respectfully requested.

The attached Appendix includes marked-up copies of each rewritten claim (37 C.F.R. §1.121(c)(1)(ii)).

Respectfully submitted,



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Attachment: Appendix

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## APPENDIX

## Changes to Claims:

The following is a marked-up version of the amended claim:

10. (Amended) Process for the solvent-free continuous manufacture in a twin-screw mixer-extruder (1) of pyrotechnic compositions according to Claim 1 ~~any one of Claims 1 to 9~~, characterized in that:

- the twin-screw mixer-extruder (1) comprises a mixing and kneading compartment (2), a compression compartment (3) and an extrusion head (4), and in that
- the solid (A) and liquid (B) constituents are introduced into the mixing and kneading compartment (2) via two different feed openings, a feed opening for the solids and a feed opening for the liquids, in that they are, in this compartment, conveyed and kneaded, then, in that,
- the homogeneous paste thus formed is degassed in the compression compartment (3) and then extruded, using an extrusion head (4), in the form of rods (8) and, finally, in that,
- the rods thus formed (8) are cut up into charges (9) using a cutting device (10), and in that these said charges (9) are crosslinked at a temperature of between 100°C and 150°C.